Blakely, Sokoloff, Taylor & Zafman LLP (408) 720-8300 Title: METHODS AND APPARATUSES FOR MANUFACTURING ULTRA THIN

DEVICE LAYERS FOR INTEGRATED CIRCUIT DEVICES

1st Named Inventor: Peter Tolchinsky

Express Mail No.: EV 341064692 US Sheet: 1 of 6

Docket No.: 42P17299

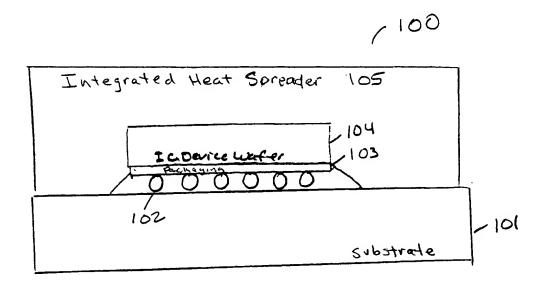


Fig. 1 (Prior Art)

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1200 Create multi-layered Silicon on Porous Silicon (5:/psi) wafer having a silicon substrate, a porous silicon layer, and -205 a Silicon layer. Process the Si/psi water to form a device layer of an Ic device in the -210 Silicon layer of the 5,/ps; wafer. Bond a support layer to the device layer of the Silpsi wafer. -215 Split the porous silicon layer of the Silpsi water. -220 Remove portion of porous sili con layer attached to the silican layer -225 and remove support layer. Complete Standard IC device packaging.

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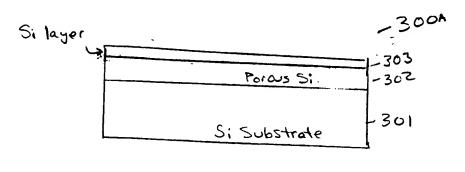


Fig. 3A

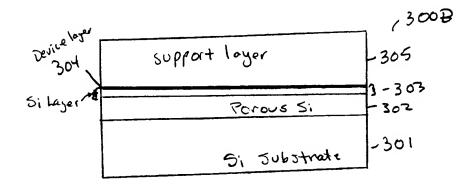
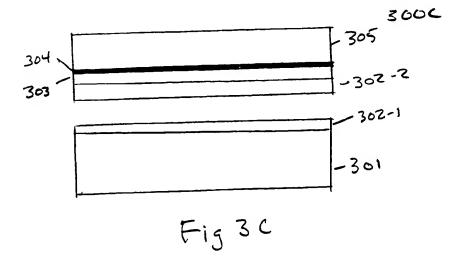


Fig. 3B



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Forma porous silicon layer on a single crystal waifer.

- 405

Deposit a layer of polysilicon on the porous silicon layer and planarite.

-410

Prepare a donor water having a Hz-implanted layer formed therein and an insulator layer deposited there on.

-415

Bond the oxide layer of the donor water to the polysilican layer of the single crystal water

1420

Split the bonded device through the Hz implanted layer to produce a silicon on insulator on porous silicon (SIZIPSi) water

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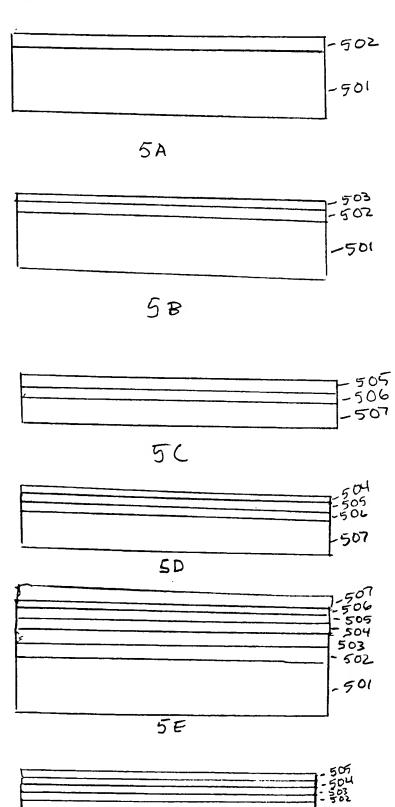
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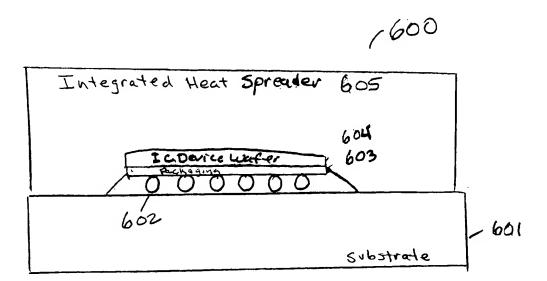


Fig. 6